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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/533,541

**Applicant(s)**

VON SCHWEBER ET AL.

**Examiner**

WILLIAM PORTER

**Art Unit**

3623

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,6,7,9-13,16-22,24-28,30-41,44,46-49 and 51-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6,7,9-13,16-22,24-28,30-41,44,46-49 and 51-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-552)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/14/2010, 4/29/2005
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Status of Claims**

The following is a **FINAL** office action. In accordance with the amendment to application 10/533,541 filed on 6 October 2010, claims 1-3, 6, 7, 9-13, 16-22, 24-28, 30-41, 44, 46-49 and 51-53 are pending in the application and have been examined on the merits discussed below.

- Claims 4-5, 8, 14-15, 23, 29, 42-43, 45 and 50 have been canceled.
- Claims 1-3, 7, 9, 11-13, 16-22, 24-26, 28, 30-31, 37-41, and 44 have been amended.

### **Response to Amendment**

#### ***Claim Rejections - 35 USC § 112***

The applicant has overcome the as being indefinite for failing to particularly point out and distinctly claim the subject matter 35 USC §112, second paragraph rejection for claim 50 by canceling claim 50. The rejection is withdrawn.

#### ***Claim Rejections - 35 USC § 101***

The applicant has overcome the Bilski “machine or transformation” 35 USC §101 rejection for claims 1-41 by amending independent claim 1. The rejection is withdrawn.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-7, 9-10, 13, 15-21, 24-41, 44, 46-49 and 51-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juerger Branke and Michael Campos, USPgPUB 2004/0210545, (hereinafter referred to as Branke et al) in view of Wen Syan Li, Kasim Selouk Candan and Divyakant Agrawal, USPAT 6,591,266 (hereinafter referred to as Li et al).

**Claim 1 –**

As per claim 1, Branke et al in view of Li et al disclose a computer-implemented (“software on any computer readable media”, pg. 6, paragraph 0079, ll. 7-9) method to conduct an information survey of an information resource (“central pool” is information resource, pg. 2, paragraph 0025, ll. 1-4 of Branke et al). Branke et al disclose information resource, transforming the survey niche, executing an algorithm and providing a result to a client, and do not explicitly teach response to a request. However, Li et al teach the method including:

- in response to a request from a client to compute an information survey (“end user requests”, col. 7, ll. 38-41 of Li et al

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include making a request to teach the limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to improve efficiency of survey delivery (col. 2, ll. 6-7 of Li et al) to expand the method of Branke et al in this way since Li et al discusses the system having a database management system for storing data used to generate surveys (ABS., ll. 1-5 of Li et al)

Branke et al teach the method including:

- compute an information survey of an information resource, accessing, by an information resource manager executed in a memory by a processor of a data processing system (Fig. 4 of Branke et al), the information resource (“central pool” is information resource, pg. 2, paragraph 0025, ll. 1-4 of Branke et al) representing at least a single entity, wherein said request initializes a survey niche comprised of a set of at least one predicate and a first group of zero or more entities that satisfy all predicates in the set (“allocation of individuals” is a first group, pg. 2, paragraph 0026, ll. 1-4 of Branke et al),

wherein said initialization is at least one of direct initialization and indirect initialization, wherein during the direct initialization the request identifies the at least one predicate and during the indirect initialization the request identifies at least one example entity belonging to the first group; (“the individuals picked most preferably” is at least one entity belonging, pg. 2, paragraph 0027, ll. 4-7 of Branke et al)

- transforming (“evolves” is transforming, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) the survey niche by applying a first computable function (“a number of generations” is a first computable function, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) to the set to generate a transformed set having a plurality of predicates not identical with the set prior to transformation, wherein the transformed set, when evaluated against the information resource, produces a second group (“subpopulations” is second group, pg. 2, paragraph 0027, ll. 1-4 of Branke et al) of zero entities that satisfy all predicates in the transformed set:

- executing an algorithm (“implementation of general evolutionary algorithm” is executing and algorithm, pg. 2, paragraph 0024, ll. 1-7 of Branke et al) to identify at least one characterized partition of the transformed survey niche where the partition is characterized by a subset of the transformed set and where the subset is satisfiable against the information resource by producing a third group of at least one entity that satisfies all predicates in the subset, the third group (“subpopulations” is third group, pg. 2, paragraph 0027, ll. 1-4 of Branke et al) comprising the at least one entity in the characterized partition; and

- providing at least a portion of the at least one characterized partition of the transformed survey niche as a search option to the client. (“repeat said process and migrate steps until an ending condition is reached”, pg. 3, paragraph 0032, ll. 5-10 of Branke et al). Reporting out the ending condition (to the client) is an old and well known step of information processing.

**Claim 2 –**

As per claim 2, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach wherein the at least one characterized partition is a survey lattice element (Fig. 3 of Branke et al), wherein the survey lattice represents a partial order of subsets of the transformed set. (“a sorted central pool” is a partial order, pg. 2, paragraph 0027, ll. 7-12 of Branke et al)

**Claim 3 –**

As per claim 3, Branke et al in view of Li et al disclose the method of claim 2. Branke et al teach wherein the at least one survey lattice element is at least one of dominant and maximal in the survey lattice, such that adding any additional single predicate from the transformed set into the at least one satisfiable subset would cause the at least one satisfiable subset to become unsatisfiable against the information resource. (“termination condition” is satisfiable subset migration to unsatisfiable set, pg. 3, paragraph 0032, ll. 3-10 and pg. 4, paragraph 0057 of Branke et al)

**Claim 6 –**

As per claim 6, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach wherein results of the information survey are used to specify modification operations (“mutation” and “crossover” is modification operation, pg. 1, paragraph 0006, ll. 3-5 of Branke et al) on the information resource surveyed.

**Claim 7 –**

As per claim 7, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach further including enabling selection of at least one entity from the third group. (“subpopulations” is third group, pg. 2, paragraph 0027, ll. 1-4 of Branke et al)

**Claim 9 –**

As per claim 9, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach wherein the first computable function applies (“a number of generations” is a first computable function, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) an operator selected that is one of a crossover operator and a mutation operator. (“crossover”, pg. 1, paragraph 0006, ll. 3-5 of Branke et al)

**Claim 10 –**

As per claim 10, Branke et al in view of Li et al disclose the method of claim 9. Branke et al teach wherein the operator is further selected from a group of operators including a random operator, a non-random operator, and a partly random operator. (“probabilistically selected” is random operator, pg. 1, paragraph 0005, ll. 1-14 of Branke et al)

**Claim 13 –**

As per claim 13, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach further including associating a survey monitor (“generation” is survey monitor, pg. 1, paragraph 0004, ll. 4-7 of Branke et al) with the survey niche, wherein the survey monitor represents a non-constraining predicate. (“number of individuals in a population is constant from generation” is non-constraining, pg. 1, paragraph 0004, ll. 7-9 of Branke et al)

**Claim 15 –**

As per claim 15, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach claim 1 and do not explicitly teach survey lattice. However, Li et al teach further including

forming and representing the at least one characterized partition of entities in the transformed survey niche as a survey lattice element. (Fig. 14 and Fig. 15 of Li et al)

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include survey lattice to teach the limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to improve efficiency of survey delivery (col. 2, ll. 6-7 of Li et al) to expand the method of Branke et al in this way since Li et al discusses the system having a database management system for storing data used to generate surveys (ABS., ll. 1-5 of Li et al)

**Claim 16 –**

As per claim 16, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach claim 15 and do not explicitly teach survey lattice. However, Li et al teach wherein algorithm (“evolutionary algorithms”, pg. 1, paragraph 0002 of Branke et al) includes at least one operation selected from a group of operations including forming maximal satisfiable elements of the survey lattice, forming non-maximal satisfiable elements of the survey lattice, forming minimal unsatisfiable elements (“removed from the population” is unsatisfiable, pg. 1, paragraph 0008, ll. 12-15 of Branke et al) of the survey lattice (Fig. 14 and Fig. 15 of Li et al), and forming non-minimal unsatisfiable elements of the survey lattice. (Fig. 14 and Fig. 15 of Li et al)

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include survey lattice to teach the limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to improve efficiency of survey delivery (col. 2, ll. 6-7 of Li et al) to expand the method of Branke et al in this way since Li et al discusses the system having a database management system for storing data used to generate surveys (ABS., ll. 1-5 of Li et al)

**Claim 17 –**



As per claim 17, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach wherein the first computable function (“a number of generations” is a first computable function, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) applies at least one of a single transformation (“mutation”, pg 1, paragraph 0006, ll. 3-5 of Branke et al) and a composite transformation (“crossover”, pg. 1, paragraph 0006, ll. 6-8 of Branke et al).

**Claim 18 –**

As per claim 18, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach wherein the first computable function (“a number of generations” is a first computable function, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) applies at least one of a deterministic transformations, non-deterministic transformations, and a combination of partly deterministic and partly non-deterministic transformations. (“fitness function” is deterministic, pg. 1, paragraph 0007 of Branke et al)

**Claim 19 –**

As per claim 19, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach wherein the first computable function (“a number of generations” is a first computable function, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) is at least one of adding, deleting, negating, modifying, binding, and resolving predicates. (“mutation” is modifying, pg. 1, paragraph 0006, ll. 1-5 of Branke et al)

**Claim 20 –**

As per claim 20, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach further including applying a second computable function (“repeated transformations or iterations” is second computable function, pg. 1, paragraph 0004, ll. 1-4 of Branke et al) to

transform the first group of at least one entity. (“individuals are selected from the general population” is first group, pg. 1, paragraph 0005, ll. 1-3 of Branke et al)

**Claim 21 –**

As per claim 21, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach wherein the at least one predicate is at least one of single valued, set valued, range valued, and of a complex type. (“flip one bit” is single value, pg. 1, paragraph 0006, ll. 9-12 of Branke et al)

**Claim 24 –**

As per claim 24, Branke et al in view of Li et al disclose the method of claim 3. Branke et al teach claim 3 and do not explicitly teach survey lattice. However, Li et al teach further including selecting the first computable function (“a number of generations” is a first computable function, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) such that the number of survey lattice elements (Fig. 14 and Fig. 15 of Li et al) that are at least one of dominant and maximal (“most fit” is dominant, pg. 5, paragraph 0060, ll. 6-11 of Branke et al) are bounded by at least one of an upper bound, and a lower bound.

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include survey lattice to teach the limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to improve efficiency of survey delivery (col. 2, ll. 6-7 of Li et al) to expand the method of Branke et al and Omoigui in this way since Li et al discusses the system having a database management system for storing data used to generate surveys (ABS., ll. 1-5 of Li et al)

**Claim 25 –**

As per claim 25, Branke et al in view of Li et al disclose the method of claim 3. Branke et al teach claim 1 and do not explicitly teach survey lattice. However, Li et al teach further including selecting the first computable function ("a number of generations" is a first computable function, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) such that the number of unsatisfiable survey lattice (Fig. 14 and Fig. 15 of Li et al) elements that are at least one of minimal and dominated are bounded by at least one of an upper bound, and a lower bound, or an upper bound and a lower bound.

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include survey lattice to teach the limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to improve efficiency of survey delivery (col. 2, ll. 6-7 of Li et al) to expand the method of Branke et al in this way since Li et al discusses the system having a database management system for storing data used to generate surveys (ABS., ll. 1-5 of Li et al)

**Claim 26 –**

As per claim 25, Branke et al in view of Li et al disclose the method of claim 2. Branke et al and Omoigui teach claim 1 and do not explicitly teach survey lattice. However, Li et al teach further including transforming a set of predicates such that the transformed set of predicates at least partly matches a set of predicates for which survey lattice elements are already formed. (Fig. 14 and Fig. 15 of Li et al)

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include survey lattice to teach the limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to improve efficiency of survey delivery (col. 2, ll. 6-7 of Li et al) to expand the method of Branke et al in this way since Li et al discusses the system having a database management system for storing data used to generate surveys (ABS., ll. 1-5 of Li et al)

**Claim 27 –**

As per claim 27, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach further including transforming the survey niche in order to achieve transformation goals from a group including a specific or general contraction, a specific or general expansion, and a specific or general shifting of the survey niche. (“mutation” and “crossover” is general shifting, pg. 1, paragraph 0006, ll. 3-7 of Branke et al)

**Claim 28 –**

As per claim 28, Branke et al in view of Li et al disclose the method of claim 1. Branke et al teach further including selecting the first computable function (“a number of generations” is a first computable function, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) to achieve differentiation of entities that satisfy subsets of the transformed set. (“the individuals picked most preferably” is at least one entity belonging, pg. 2, paragraph 0027, ll. 4-7 of Branke et al)

**Claim 30 –**

Claim 30 is directed to a method to conduct an information survey. Claim 30 recites the same or similar limitations as those addressed above for claim 4. Claim 30 is therefore rejected for the same reasons as set forth above for claim 4, respectively.

**Claim 31 –**

Claim 31 is directed to a method to conduct an information survey. Claim 31 recites the same or similar limitations as those addressed above for claim 1. Claim 31 is therefore rejected for the same reasons as set forth above for claim 1, respectively.

**Claim 32 –**

Claim 32 is directed to a method to conduct an information survey. Claim 32 recites the same or similar limitations as those addressed above for claim 16. Claim 32 is therefore rejected for the same reasons as set forth above for claim 16, respectively.

**Claim 33 –**

Claim 33 is directed to a method to conduct an information survey. Claim 33 recites the same or similar limitations as those addressed above for claim 25. Claim 33 is therefore rejected for the same reasons as set forth above for claim 25, respectively.

**Claim 34 –**

Claim 34 is directed to a method to conduct an information survey. Claim 34 recites the same or similar limitations as those addressed above for claim 9. Claim 34 is therefore rejected for the same reasons as set forth above for claim 9, respectively.

**Claim 35 –**

Claim 35 is directed to a method to conduct an information survey. Claim 35 recites the same or similar limitations as those addressed above for claim 11. Claim 35 is therefore rejected for the same reasons as set forth above for claim 11, respectively.

**Claim 36 –**

Claim 36 is directed to a method to conduct an information survey. Claim 36 recites the same or similar limitations as those addressed above for claim 12. Claim 36 is therefore rejected for the same reasons as set forth above for claim 12, respectively.

**Claim 37 –**

Claim 37 is directed to a method to conduct an information survey. Claim 37 recites the same or similar limitations as those addressed above for claim 13. Claim 37 is therefore rejected for the same reasons as set forth above for claim 13, respectively.

**Claim 38 –**

Claim 38 is directed to a method to conduct an information survey. Claim 38 recites the same or similar limitations as those addressed above for claim 15. Claim 38 is therefore rejected for the same reasons as set forth above for claim 15, respectively.

**Claim 39 –**

Claim 39 is directed to a method to conduct an information survey. Claim 39 recites the same or similar limitations as those addressed above for claim 22. Claim 39 is therefore rejected for the same reasons as set forth above for claim 22, respectively.

**Claim 40 –**

Claim 40 is directed to a method to conduct an information survey. Claim 40 recites the same or similar limitations as those addressed above for claim 26. Claim 40 is therefore rejected for the same reasons as set forth above for claim 26, respectively.

**Claim 41 –**

Claim 41 is directed to a method to conduct an information survey. Claim 41 recites the same or similar limitations as those addressed above for claim 27. Claim 41 is therefore rejected for the same reasons as set forth above for claim 27, respectively.

**Claim 44 –**

Claim 44 is directed to a computer-implemented system (Fig. 4) including a processor (Fig. 4, Items 401a – 401d of Branke et al) and a memory (Fig. 4, Items 401a and 401d + “of standard

types and constructed as known in the art”, pg. 6, paragraph 0075, ll. 1-6 of Branke et al) to conduct an information survey. Claim 44 recites the same or similar limitations as those addressed above for claim 1. Claim 44 is therefore rejected for the same reasons as set forth above for claim 1, respectively.

**Claim 46 –**

As per claim 46, Branke et al disclose the system of claim 44, wherein the system includes at least one manager selected from a group of managers including: a survey manager to maintain survey configuration information and manage multiple survey generations; a session manager to manage survey sessions and obtain services from other managers; a predicate manager to manage terms, concepts, and predicates, and perform disambiguation; a user manager to manage user information; a persistence manager to store and retrieve information for other managers; an integration manager to connect with external systems other than information resources; and a user interface manager for creating and managing displays and handling user input. (Fig. 4, Fig. 2A and Fig. 2B)

**Claim 47 –**

As per claim 47, Branke et al in view of Li et al disclose the method of claim 44. Branke et al teach claim 44 and do not explicitly teach survey lattice. However, Li et al teach wherein the partition manager is a survey lattice manager to generate a survey lattice element. (Fig. 14 and Fig. 15 of Li et al)

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include survey lattice to teach the limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to improve efficiency of survey delivery (col. 2, ll. 6-7 of Li et al) to expand the method of Branke et al in this way since Li et al discusses the system having a database management system for storing data used to generate surveys (ABS., ll. 1-5 of Li et al)

**Claim 48 –**

Claim 48 is directed to a system (Fig. 4) to conduct an information survey. Claim 48 recites the same or similar limitations as those addressed above for claim 22. Claim 48 is therefore rejected for the same reasons as set forth above for claim 22, respectively.

**Claim 49 –**

As per claim 49, Branke et al disclose the system of claim 44, further including a user interface subsystem for information surveying, the subsystem including: a means for capturing user input to initialize a survey niche; and a displaying means for presenting a plurality of characterized partitions to the user. (Fig. 2A, Item 203)

**Claim 51 –**

As per claim 51, Branke et al disclose the user interface subsystem (Fig. 4, Item 401a) of claim 49, wherein the interface includes a means for presenting at least one survey lattice element.

**Claim 52 –**

As per claim 52, Branke et al disclose the user interface subsystem of claim 49, wherein the interface includes a survey lattice table for presenting at least one survey lattice element. (Fig. 3)

**Claim 53 –**

As per claim 53, Branke et al disclose the system of claim 47, further including a data structure, wherein survey lattice elements are based on a source from a group of sources including an index, a conceptual structure, a database, and a category system. (Fig. 4)



Claims 11, 12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Branke et al, and Li et al and further in view of Nosa Omoigui, USPgPUB 2004/0230572, (hereinafter referred to as Omoigui).

**Claim 11 –**

As per claim 11, Branke et al in view of Li et al and further in view of Omoigui disclose the method of claim 1. Branke et al teach the method of claim 1 and do not explicitly teach semantic operator and conceptual structure. However, Omoigui teaches wherein the first computable function (“a number of generations” is a first computable function, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) applies one of a semantic operator (“semantic browser”, pg. 1, paragraph 0018, ll. 1-3, of Omoigui) and a conceptual structure.

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include semantics systems and concepts to teach the limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to increase the density and richness of relevant search results (pg. 4, paragraph 0157, ll. 1-5 of Omoigui) to expand the method of Branke et al in this way since Omoigui discusses information management and research systems performing information searches (pg. 1, paragraph 0003 of Omoigui)

**Claim 12 –**

As per claim 12, Branke et al in view of Li et al and further in view of Omoigui disclose the method of claim 1. Branke et al teach the method of claim 1 and do not explicitly teach semantic property and conceptual structure. However, Omoigui teaches wherein the at least one predicate is at least one of a property, attribute, trait, characteristic, function, relation, relationship, measurement, constraint, semantic property, action, coding sequence, objective, goal, and criteria. (“SQML” is semantic property, pg. 1, paragraph 0017, ll. 1-3 of Omoigui)

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include semantics systems and concepts to teach the

limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to increase the density and richness of relevant search results (pg. 4, paragraph 0157, ll. 1-5 of Omoigui) to expand the method of Branke et al in this way since Omoigui discusses information management and research systems performing information searches (pg. 1, paragraph 0003 of Omoigui)

**Claim 22 –**

As per claim 22, Branke et al in view of Li et al and further in view of Omoigui disclose the method of claim 1. Branke et al teach the method of claim 1 and do not explicitly teach semantic property and conceptual structure. However, Omoigui teaches wherein the semantic operator is one of a group of semantic transformation operators (“visualization” is semantic operators, pg. 65, paragraphs 1396-1406 & paragraph 1408, ll. 1-12 of Omoigui) including generalization/specialization, mereological transformation, relationship transformation, data type transformation, and action transformation. (“semantically integrated knowledge system”, pg. 1, paragraph 0005, ll. 1-5 of Omoigui)

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include semantics systems and concepts to teach the limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to increase the density and richness of relevant search results (pg. 4, paragraph 0157, ll. 1-5 of Omoigui) to expand the method of Branke et al in this way since Omoigui discusses information management and research systems performing information searches (pg. 1, paragraph 0003 of Omoigui)

**Response to Arguments**

Applicant's arguments filed 6 October 2010 have been fully considered but they are not persuasive. Applicant argues that Branke et al fails to disclose the amended claim 1. Examiner

respectfully disagrees with the applicant and responds that the above office action specifically discloses the amended claim 1 as follows:

As per claim 1, Branke et al in view of Li et al disclose a computer-implemented ("software on any computer readable media", pg. 6, paragraph 0079, ll. 7-9) method to conduct an information survey of an information resource ("central pool" is information resource, pg. 2, paragraph 0025, ll. 1-4 of Branke et al). Branke et al disclose information resource, transforming the survey niche, executing an algorithm and providing a result to a client, and do not explicitly teach response to a request. However, Li et al teach the method including:

- in response to a request from a client to compute an information survey ("end user requests", col. 7, ll. 38-41 of Li et al

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the method of Branke et al to include making a request to teach the limitation of the present application. One of ordinary skill in the art at the time of the invention would have been motivated to improve efficiency of survey delivery (col. 2, ll. 6-7 of Li et al) to expand the method of Branke et al in this way since Li et al discusses the system having a database management system for storing data used to generate surveys (ABS., ll. 1-5 of Li et al)

Branke et al teach the method including:

- compute an information survey of an information resource, accessing, by an information resource manager executed in a memory by a processor of a data processing system (Fig. 4 of Branke et al), the information resource ("central pool" is information resource, pg. 2, paragraph 0025, ll. 1-4 of Branke et al) representing at least a single entity, wherein said request initializes a survey niche comprised of a set of at least one predicate and a first group of zero or more entities that satisfy all predicates in the set ("allocation of individuals" is a first group, pg. 2, paragraph 0026, ll. 1-4 of Branke et al), wherein said initialization is at least one of direct initialization and indirect initialization, wherein during the direct initialization the request identifies the at least one predicate and during the indirect initialization the request identifies at least one example entity

belonging to the first group; (“the individuals picked most preferably” is at least one entity belonging, pg. 2, paragraph 0027, ll. 4-7 of Branke et al)

- transforming (“evolves” is transforming, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) the survey niche by applying a first computable function (“a number of generations” is a first computable function, pg. 2, paragraph 0026, ll. 4-7 of Branke et al) to the set to generate a transformed set having a plurality of predicates not identical with the set prior to transformation, wherein the transformed set, when evaluated against the information resource, produces a second group (“subpopulations” is second group, pg. 2, paragraph 0027, ll. 1-4 of Branke et al) of zero entities that satisfy all predicates in the transformed set:
- executing an algorithm (“implementation of general evolutionary algorithm” is executing an algorithm, pg. 2, paragraph 0024, ll. 1-7 of Branke et al) to identify at least one characterized partition of the transformed survey niche where the partition is characterized by a subset of the transformed set and where the subset is satisfiable against the information resource by producing a third group of at least one entity that satisfies all predicates in the subset, the third group (“subpopulations” is third group, pg. 2, paragraph 0027, ll. 1-4 of Branke et al) comprising the at least one entity in the characterized partition; and
- providing at least a portion of the at least one characterized partition of the transformed survey niche as a search option to the client. (“repeat said process and migrate steps until an ending condition is reached”, pg. 3, paragraph 0032, ll. 5-10 of Branke et al).  
Reporting out the ending condition (to the client) is an old and well known step of information processing.

Applicant's arguments filed 6 October 2010 have been fully considered but they are not persuasive. Applicant argues that prior art Branke et al discloses an optimization problem that remains fix whereas the instant invention discloses an optimization problem that itself is transformed. Examiner respectfully disagrees with the applicant and responds that Branke et al

teach the application of the evolutionary algorithms (EA) method and system to the intended use of information surveying of the instant invention. Branke et al teach optimization goal that remains fix, but the optimization problem changes based on the generations of populations and subpopulations (Fig. 2A, Item 205). The problem transforms as the subject population or subpopulations transform (pg. 3, paragraph 0032 of Branke et al)

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **WILLIAM PORTER** whose telephone number is (571)270-7786. The examiner can normally be reached on Monday Through Thursday 8 - 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on (571) 272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/W.P./

/Beth V. Boswell/

Supervisory Patent Examiner, Art Unit 3623